W. J. BOHAN.

LAMP.

APPLICATION FILED OCT. 5, 1917.

1,323,819. Patented Dec. 2, 1919.

Fig. 1.

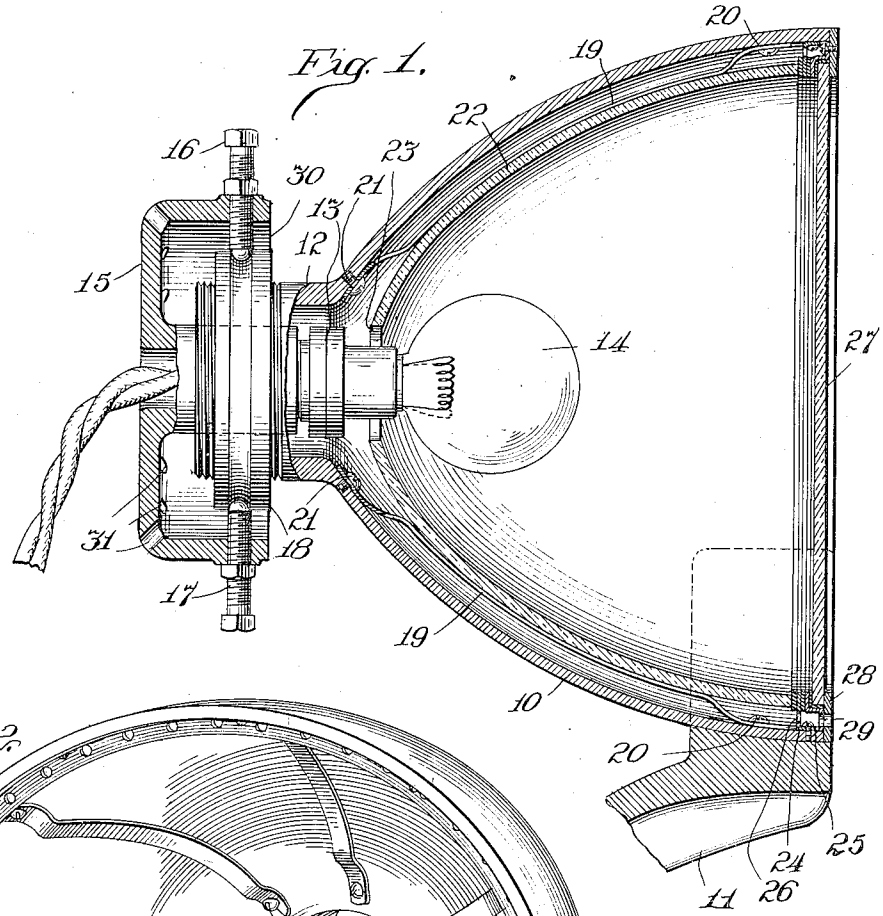
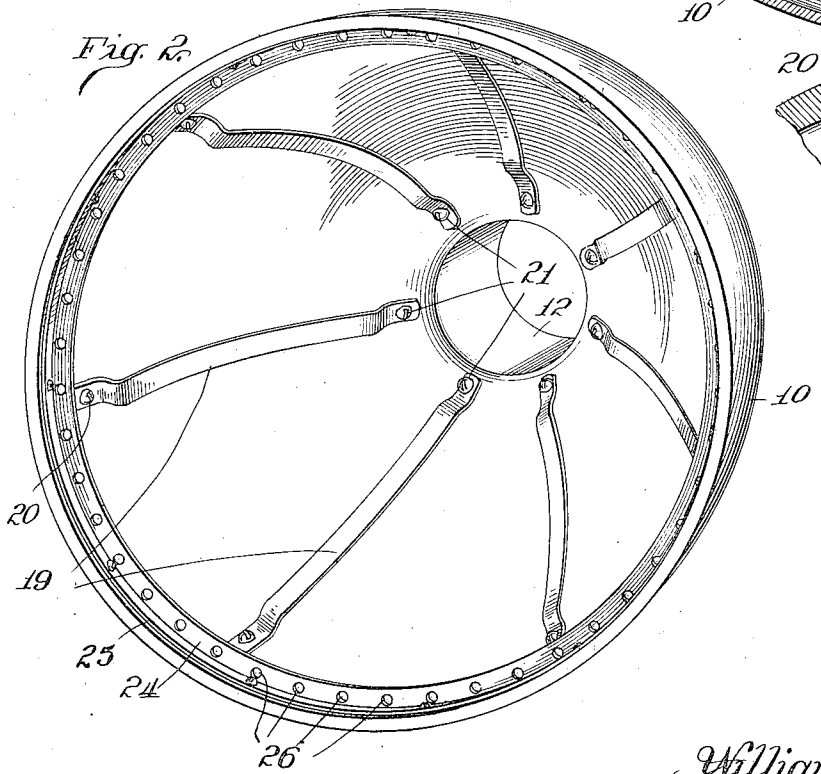


Fig. 2.



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LAMP.

1,323,819. Specification of Letters Patent. Patented Dec. 2, 1919.

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To all whom it may concern:

Be it known that I, WILLIAM J. BOHAN, a citizen of the United States, and resident of St. Paul, county of Ramsey, and State of Minnesota, have invented certain new and useful Improvements in Lamps, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to lamps, particularly of the headlight type, comprising a reflector casing and a reflector housed therein. In lamps of this character it is becoming the practice to use glass reflectors in conjunction with a high power incandescent electric bulb. The lamp being provided with a glass front, the heat given off by the bulb is retained within the casing and there is great danger of fracture of the glass of the reflector by the high temperature developed, especially when its free expansion is prevented by the means by which it is secured in place.

The object of the invention is to protect the reflector from such danger; and it consists broadly in a yielding seat against which the outer surface of the reflector is held by a ring or equivalent device applied to its rim. In the embodiment of the invention disclosed, the seat for the reflector consists of a series of resilient metal strips or plates attached to the reflector casing and serving the additional function of conductors for the heat; the intervening space between the body of the reflector and the shell being vented at the front and rear to permit free circulation of air to carry off the heat.

In the accompanying drawings illustrating the invention,

Figure 1 is a central longitudinal section of a lamp; and

Fig. 2 is a view in perspective of the shell with the reflector and bulb removed.

The shell or casing for inclosing the reflector is shown at 10, and may be provided with any suitable means, such as a bracket-arm 11, by which the lamp may be supported. The shell is bowl shaped, and its stem 12 is tubular for receiving the base 13 of an incandescent bulb 14. This base may be carried by an adjustable cap 15, secured by means of set-screws 16, 17, to a collar 18 in threaded engagement with the stem 12. This adjusting mechanism, while novel, is not herein claimed, as it is made the subject of another application for patent.

In the preferred form of construction, resilient metal strips 19 are secured to the shell 10 adjacent its margin and inner end, as indicated at 20, 21, and bow inwardly. As many of these strips may be employed and their width varied as may be found advisable. The strips are of a metal having a high heat conductivity, such as copper. The reflector 22 is of glass and conforms generally to the shape of the casing 10, within which it fits, but is of such size as to be spaced apart therefrom when seated against the strips 19. The inner end of the reflector is, of course, apertured, as shown at 23, to accommodate the base 13 of the electric bulb, and is held within the casing by means of an annulus 24, having a flange 25 through which securing screws may be set into the shell. This annulus 24 is perforated, as indicated at 26, to permit the entry of air between the shell and outer surface of the reflector. A glass front 27 is seated upon a suitable annulus in front of the reflector, and held in place by any suitable means, in accordance with common practice, the retaining annulus 28 being perforated, as indicated at 29, to admit the air.

The stem 12 of the casing 10 is sufficiently large to permit the free escape of air therethrough, and when the adjusting cap 15 is employed it is spaced apart from the collar 18, as shown at 30, to provide an outlet for the air, and may also be perforated at its rearward end, as shown at 31, for the same purpose.

In railway practice, and in other situations where a high power lamp is required, the heat given off from the incandescent bulb develops a temperature within the lamp which is in many instances destructive of the glass reflector, particularly when the reflector is so secured that its free expansion is not provided for. In the lamp as described the strips or plates 19, while holding the reflector with necessary firmness, will yield as it expands either radially or longitudinally, While the annulus 24 is unyielding, and hence prevents forward movement of the reflector as it expands, backward movement is permitted by the yielding of the supporting arms or plates. The heat will be rapidly conducted away from the glass by the metallic strips 19, part of

it being carried off by the casing 10 but for the most part it is taken up by the air flowing backwardly through the ports 29, 26, the passage between the reflector and shell, and out through the rear end of the lamp.

I claim as my invention—

1. In a lamp, in combination, a bowl-shaped reflector shell, a reflector of like form inclosed within the shell, yielding elements interposed between the wall of the shell and the body of the reflector, and means carried by the shell for engaging the rim of the reflector to hold it against the yielding elements.

2. In a lamp, in combination, a reflector shell, a reflector housed within the shell and spaced apart therefrom, the chamber between the shell and reflector being open at its rearward end, resilient elements interposed between the shell and the body of the reflector, and an annulus secured to the shell and bearing upon the rim of the reflector, such annulus being perforated to permit the entry of air between the reflector and shell.

3. In a lamp, in combination, a bowl-shaped shell, a reflector of like form, a resilient seat against which the convex surface of the body of the reflector rests, and means for engaging the rim of the reflector to hold its body in engagement with such seat.

4. In a lamp, in combination, a reflector shell, a reflector housed within the shell and spaced apart therefrom, the chamber between the shell and reflector being open at its rearward end, resilient strips secured at both ends to the casing and lying in planes intersecting and parallel to the axis thereof and forming seats for the reflector, and an annulus secured to the shell and bearing upon the rim of the reflector.

5. In a lamp, in combination, a bowl-shaped reflector, a casing having an annular series of resilient elements each conforming to the longitudinal contour of the reflector and collectively forming the seat for the reflector, and means clamping the reflector to such seat.

6. A holder for a dished reflector comprising a yielding seat formed of a plurality of separated elements for engaging the outer face of the reflector, and means bearing against its rim for holding the reflector to such seat.

7. A lamp comprising a casing and a bowl-shaped reflector, the casing being provided with a resilient seat into which the body of the reflector fits, and means bearing against the rim of the reflector for holding it to such seat.

8. In a lamp, in combination, a casing, a reflector housed within the casing and bearing forwardly against an abutment thereon, and spring means urging the reflector against such abutment.

9. In a lamp, in combination, a casing, a reflector housed within the casing and bearing forwardly against a stable abutment thereon, and spring means urging the reflector against such abutment.

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